REMARKS/ARGUMENTS

The Office Action mailed August 9, 2004 has been reviewed and carefully considered. Claims 1, 7, 10, and 16 have been amended. Claims 19 and 20 are added. Claims 1-20 are pending in this application, with claims 1 and 10 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed August 9, 2004, claims 1-18 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,485,307 (Osborne).

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to a grid for the absorption of X-rays. As explained in the paragraph starting on page 1, line 12, the X-rays emitted by an X-ray source traverse an object to be irradiated, i.e., a patient, and are attenuated in conformity with the varying density and chemical composition of the tissue or bone to be examined. While the X-rays traverse the patient, scattered radiation is added to the X-ray signal which falsifies the primary X-ray image to be formed. The grid according to the present invention is focused onto the radiation source so that X-ray quanta that are characteristic of the attenuation of the irradiated object are detected and the scattered radiation is reduced.

The grid for absorbing X-rays according to the present invention includes a plurality of layers. Each of the plural layers includes at least two wire elements, which are separate elements 10 that are arranged parallel to one another and spaced apart (see e.g., Fig 2, and page 5 line 30 to 32 of the specification). A plurality of layers are arranged one above the other such that a weave-like grid is obtained (page 2, lines 33-34). To produce the grid, the orientation of successive layers are arranged at an angle relative to one another, preferably

rotated through a 90 degree angle (page 2, line 34 to page 3, line 1 and page 5, lines 3-6). Advantageously, the separate wire elements allow the grid to be easily made as described in the specification starting on page 4, line 26 to page 5, line 2. In the example shown in Fig. 5 and described in the paragraph starting on page 6, line 18, the distance between the wire elements in the upper layer is smaller than that in the next lowest layer and the distance between wires in the lowest layer is greatest. This particular grid is focused on a source having a fan beam.

Independent claims 1 and 10 have each been amended to recite that the claimed grid is for use with an X-ray source. More specifically, independent claim 1 recites "said grid being focused relative to an X-ray source for allowing the X-ray quanta emitted by an X-ray source that are characteristic of the attenuation of an irradiated object to pass therethrough and for absorbing scattered radiation" and independent claim 10 recites "said grid being focused relative to the X-ray source for allowing the X-ray quanta emitted by an X-ray source that are characteristic of the attenuation of an irradiated object to pass therethrough to the X-ray detector and for absorbing scattered radiation".

Osborne fails to disclose, teach or suggest a grid that is focused to an X-ray source and for absorbing scattered X-ray radiation because Osborne relates to medical gamma ray imaging for determining the distribution of a positron-emitting radioisotope in an object. Positron emission tomography using gamma radiation as disclosed by Osborne is produced by the decay of a radioisotope and is different from X-ray tomography. According to Osborne, the gamma ray imaging device 10 includes a gas-tight housing 12 containing an ionizable gas (col. 4, lines 60-62, of Osborne). A plurality of wire mesh stacks 16, 18, and 20 are connected to graded potential and a detecting system A (col. 4, lines 62-66). The plurality of wire mesh stacks 16, 18, and 20 connected to the graded potential produce an electrostatic field within the housing

12 with lines perpendicular to the sensing wires 28 of the detector cause free electrons to drift quickly towards wires 28, improving image resolution (col. 5, lines 20-28). As shown in Fig. 4, Osborne discloses that two detectors are used on opposing sides of the patient to detect the two collinear gamma rays produced by annihilation of the positron emitted during radioisotope decay in an object (see col. 2, lines 8-13).

The Examiner states that the wire mesh stacks 16, 18, 20 disclosed by Osborne disclose the claimed grid. However, the wire mesh stacks 16, 18, 20 disclosed by Osborne are not focused on a X-ray source or any other type of source. Rather, the wire mesh stacks 16, 18, 20 are designed to provide a linear path for passing the ionization events in a linear manner to the detector (see col. 3, lines 52-58). Focusing is performed in Osborne electronically at a signal processor by analyzing the time difference between arrival of the ionization events to obtain first-order focusing (col. 4, lines 1-9). Therefore, Osborne fails to disclose that the wire meshes 16, 18, and 20 are focused to a particular source, as is now recited in each of the independent claims 1 and 10. Accordingly, independent claims 1 and 10 are not anticipated by Osborne under 35 U.S.C. §102.

Since Osborne relates to gamma ray imaging for determining the distribution of a positron-emitting radioisotope into an object, Osborne fails to teach or suggest a grid for absorbing X-rays, wherein the grid is <u>focused</u> relative to an X-ray source for allowing the X-ray quanta emitted by the X-ray source that are characteristic of the attenuation of an irradiated object to pass therethrough and for absorbing scattered radiation, as recited in independent claims 1 and 10. In contrast, the wire meshes of Osborne are designed to pass the ionization events in a linear manner to the detector. Since Osborne relates to positron emission tomography in which a radioisotope in an object is monitored by opposing detectors, there is no teaching or

suggestion for focusing the wire mesh stacks on a particular X-ray source, as recited in independent claims 1 and 10. Accordingly, independent claims 1 and 10 are also allowable over Osborne under 35 U.S.C. §103.

Dependent claims 2-9 and 11-20, each being dependent on one of independent claims 1 and 10, are deemed allowable for the same reasons expressed above with respect to independent claims 1 and 10.

New dependent claims 19 and 20 are directed to the embodiment of Fig. 5 in which an upper layer includes wire elements that are spread apart by a first distance and the lower layer include wire elements that are spread apart by a second distance, wherein the first distance is smaller than the second distance. According to Osborne, each of the wire mesh stacks 16, 18, 20 has the same distance between adjacent wires to produce a straight path for the electrons toward the detector element. Fig. 2 shows that the distance between the left wire and middle wire is greater than the distance between the middle wire and the right wire. There is no indication in the text to indicate that this was done purposefully. Assuming *arguendo* that it was, Fig. 2 shows that each layer exhibits the same spacing. Accordingly, Osborne fails to disclose, teach, or suggest that the distance between adjacent wires in one layer is different from the distance between wires in a second layer, as expressly recited in dependent claims 19 and 20. In view of the above remarks, dependent claims 19 and 20 are allowable over Osborne for these additional reasons.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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